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COMMITTEE OF EXPERTS ON THE TRANSPORT
OF DANGEROUS GOODS

# REPORT OF THE COMMITTEE OF EXPERTS ON ITS EIGHTEENTH SESSION
(28 November-7 December 1994)

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## REPORT

### ORGANIZATION OF THE SESSION

**Opening and duration of the session**

1. The Committee of Experts on the Transport of Dangerous Goods held its eighteenth session from 28 November to 7 December 1994.

2. The session was opened by Mr. J. Capel Ferrer, Director, Transport Division of the Economic Commission for Europe. Mr. Capel Ferrer welcomed all the participants, and in particular the new experts. He recalled that the Economic and Social Council had accepted the applications by the Governments of Argentina, Belgium, Brazil, Mexico and Morocco for the status of full members of the Committee, thus bringing the membership of the Committee to 19 (Decision 1994/222 of 6 June 1994).

3. In his statement, he also drew attention to the decision by the Economic Commission for Europe to hold a Regional Conference on Transport and the Environment, in principle in 1996. The Preparatory Committee was currently looking into possible topics for discussion: among those which seemed to figure prominently in the concerns of Governments was that of transport accidents involving dangerous goods. The Committee and Sub-Committee would be kept informed about the course of the preparatory work.

**Attendance**

4. The session was attended by experts from the following countries: Argentina; Belgium; Brazil; Canada; China; France; Germany; Italy; Japan; Morocco; Netherlands; Norway; Poland; Russian Federation; Sweden; United Kingdom; United States of America.

5. Observers from Austria, Finland, Nigeria, Spain, Switzerland and the Ukraine participated in accordance with Rule 72 of the Rules of Procedure of the Economic and Social Council.

6. Representatives of the following specialized agencies attended the session: International Labour Organisation (ILO); International Civil Aviation Organization (ICAO); International Maritime Organization (IMO); World Health Organization (WHO). A representative of the International Atomic Energy Agency (IAEA) also attended.

7. The following inter-governmental organizations were also represented: Commission of the European Communities (CEC), Central Commission for the Navigation of the Rhine (CCNR), Central Office for International Railway Transport (OCTI), Organization for Cooperation between Railways (OSZhD),

Organization for Economic Co-operation and Development (OECD) and the provisional technical secretariat for the Preparatory Commission for the Organization for the Prohibition of Chemical Weapons (OPCW).

8. Representatives of the following non-governmental organizations: European Chemical Industry Council (CEFIC), European Confederation of Paint, Printing Ink and Artists Colours Manufacturers Associations (CEPE), European Industrial Gases Association (EIGA), Hazardous Materials Advisory Council (HMAC), International Air Transport Association (IATA), International Confederation of Drum Manufacturers (ICDM), International Confederation of Drum Reconditioners (ICDR), International Express Carriers Conference (IECC), International Fibre Drums Institute (IFDI), International Road Transport Union (IRU) and International Organization for Standardization (ISO) took part in the discussions when items of concern to their organizations were considered.

**Election of officers**

9. Mr. L. Grainger (United Kingdom) and Mr. J. Monteith (Canada) had been elected Chairman and Vice-Chairman respectively at the seventeenth session (ST/SG/AC.10/19, para. 216). Since Mr. Grainger was unable, for health reasons, to attend the start of the session, he had requested Mr. Monteith to replace him as acting Chairman which Mr. Monteith had agreed to do.

**Agenda**

10. The Committee of Experts adopted the provisional agenda prepared by the secretariat (ST/SG/AC.10/20 and Add.1), as supplemented by information documents INF.1 and INF.2, to take late submissions into account, and INF.26 for the timetable.

**WORK OF THE SUB-COMMITTEE OF EXPERTS ON THE TRANSPORT OF DANGEROUS GOODS**

11. The Sub-Committee of Experts on the Transport of Dangerous Goods had held three sessions during the biennium 1993/1994. The reports on the seventh session (12-21 July 1993), eighth session (22-30 November 1993) and ninth session (4-15 July 1994) had been circulated under the symbols ST/SG/AC.10/C.3/14, ST/SG/AC.10/C.3/16 and ST/SG/AC.10/C.3/18 and Adds.1 - 4 and Corr.1 respectively.

12. In order to facilitate the consideration of the recommendations made by the Sub-Committee, the draft amendments to the Recommendations on the Transport of Dangerous Goods had been consolidated in documents ST/SG/AC.10/R.442 (United Kingdom and France), for recommendations concerning the packing of explosive substances and articles, and ST/SG/AC.10/R.443 (secretariat) for other amendments.

13. The Committee adopted the draft amendments proposed by the Sub-Committee,

except as otherwise indicated in paragraphs 15 to 92 below. The final amendments to the Recommendations on the Transport of Dangerous Goods are reproduced in annexes 1 to 3 to this report under cover of separate addenda as follows:

- ST/SG/AC.10/21/Add.1 : Annex 1 (Amendments to the Preface, Contents, and Chapters 1 to 3)
- ST/SG/AC.10/21/Add.2 : Annex 2 (Amendments to Chapter 4)
- ST/SG/AC.10/21/Add.3 : Annex 3 (Amendments to chapters 5 to 17, Appendix A and Index)

14. For the work on the rationalization of the Manual of tests and criteria and on multimodal tanks, the Committee decided to set up two working groups, as provided for in the agenda; once their respective mandates had been defined, they met in parallel with the plenary session, the group on the rationalization of the Manual of Tests and Criteria from 28 to 30 November 1994 and the group on multimodal tanks from 28 November to 2 December 1994.

**(a) Criteria for Division 5.1**

**Solid oxidizing substances**

Documents: ST/SG/AC.10/C.3/18/Add.3
ST/SG/AC.10/C.3/R.528(OECD/IGUS)
ST/SG/AC.10/C.3/R.441(Germany)

15. The Sub-Committee had already adopted a revised version of the test for solid oxidizing substances, but some points to be resolved which had remained in square brackets were entrusted to the working group on the rationalization of the Manual of Tests and Criteria (section 34.4.1 of the Manual).

**Liquid oxidizing substances**

Documents: ST/SG/AC.10/C.3/R.496(Sweden)
Informal document INF.27(Sweden)

16. The expert from Sweden presented the results of tests requested by the Sub-Committee in order to be able to prepare the final version of the time/pressure test which had been preferred to the conical pile test proposed by the expert from Japan (see also ST/SG/AC.10/C.3/18, para. 51). These documents were also submitted to the working group on the rationalization of the Manual of Tests and Criteria.

**Mixtures of solid oxidizing substances and water**

Documents: ST/SG/AC.10/C.3/R.535 (Norway)
ST/SG/AC.10/R.489 (Norway)
Informal document INF.38 (United States of America)

17. Document -/R.489 replaced document -/C.3/R.535; both documents were transmitted to the working group on the rationalization of the Manual of Tests and Criteria, with the comments of the expert from the United States of America.

**Other matters**

Document: ST/SG/AC.10/R.460 (Germany)

18. The expert from Germany proposed deleting a sentence in paragraph 14.2.2.1.1 of the Recommendations which specified that oxidizing substances were not considered to be self-reactive. He considered that some substances which possessed both oxidizing and self-reactive properties should be considered primarily as self-reactive substances. The expert from the United Kingdom said that the amendment was not necessary since the question of precedence of hazard was determined in paragraph 1.44. The experts from the Netherlands and France said they feared that the proposed amendment would involve classifying certain oxidizing substances in Division 4.1. The question was postponed until the next biennium.

**(b) Rationalization of the Manual of Tests and Criteria**

19. The expert from the United Kingdom had prepared a consolidation of the Manual of Tests and Criteria as revised by the Sub-Committee, in the form of informal document INF.3, amended by an addendum -/Add.1. The following documents also appeared on the agenda:

**Part I of the Manual:**

ST/SG/AC.10/C.3/R.474 (United Kingdom)
ST/SG/AC.10/C.3/R.441 (United Kingdom)
ST/SG/AC.10/C.3/R.529 (OECD/IGUS)
ST/SG/AC.10/R.499 (Russian Federation)
ST/SG/AC.10/R.500 (Russian Federation)

**Parts II and III of the Manual:**

ST/SG/AC.10/C.3/R.475 (United Kingdom)
ST/SG/AC.10/R.441 (United Kingdom)
ST/SG/AC.10/C.3/R.572 (CEFIC)
ST/SG/AC.10/R.482 (CEFIC)
Informal document INF.31 (Germany)

Informal document INF.34 (Netherlands)

20. With regard to part I of the Manual, it was recalled that the Sub-Committee at its ninth session had considered that the work had been completed and that there was no reason to discuss new problems within the working group, apart from necessary additions and questions of detail. The new questions concerning the series 6 (c) tests, namely, points concerning section 16 of the Manual in document -/R.441 and document -/C.3/R.529, could not therefore be considered until the next biennium.

21. Several experts expressed interest in documents -/R.499 and -/R.500 and the test methods submitted by the expert from the Russian Federation. Since those documents had been reproduced and distributed late, consideration of them was postponed until the next biennium. Interested experts could submit their comments and questions to the expert */ from the Russian Federation.

22. The documents for parts II and III of the Manual were transmitted to the working group on the rationalization of the Manual.

23. The Committee considered that the reference to document -/C.3/R.572 as an example of a test method for emergency vent sizing of organic peroxide tank-containers, in paragraph 11.2.13.1, was not appropriate in so far as document -/C.3/R.572 was not available to the reader of the Recommendations. The working group was requested to find a more practical solution.

24. In addition to the final preparation of the texts of the Manual, the working group was requested to prepare the texts of amendments to the Recommendations corresponding to the rationalized version of the Manual.

**Report of the working group on the Rationalization of the Manual of Tests and Criteria**

25. The working group on the rationalization of the Manual of Tests and Criteria, meeting under the chairmanship of Mr. Groothuizen (Netherlands), submitted its report to the Committee. The group had considered the documents concerning the rationalization of the Manual and those concerning the classification of organic peroxides and self-reactive substances transmitted to it by the Committee. The group's report is reproduced as annex 4 (English only) to the present report (under cover of ST/SG/AC.10/21/Add.4).

26. Since the proposal by Germany in informal document INF.31 to simplify the test requirements for self-heating substances of Division 4.2 had not been adopted by the group on the grounds that it would lead to the reclassification of too large a number of substances of packing group III or packing group II, the expert from Germany said that he would ascertain whether that was indeed the case (see also para. 31 of the group's report).

27. Since the working group had not taken any decision on document -/R.489 submitted by Norway and informal document INF.38 submitted by the United States of America on the possibility of exempting from Division 5.1 certain aqueous solutions of inorganic nitrates or other inorganic solids (see para. 32 of the group's report), the expert from Norway asked the Committee to take a decision on a compromise to permit an exemption on the basis of concentration, without resorting to costly tests. The agreed compromise was to add a special provision 270 for entry UN 3218 exempting certain solutions (see annex 1).

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28. The expert from the United States of America expressed a reservation about the adoption of the test method for oxidizing liquid substances because the property the method measured did not reflect the risks which could arise during transport (for example, spontaneous combustion or the property of contributing to the combustion of flammable materials).

29. The expert from Sweden reminded the Committee that the adoption of the test method should be accompanied by amendments to chapter 2 of the Recommendations to be found in annex 3 of document ST/SG/AC.10/C.3/R.496.

30. The Committee adopted the rationalized Manual of Tests and Criteria on the basis of documents INF.3 and INF.3/Add.1 submitted by the United Kingdom, as amended by the working group (see ST/SG/AC.10/21/Add.4, paragraph 4 and appendices C and D). The consolidated text of the Manual will be circulated under the symbol ST/SG/AC.10/11/Rev.2.

31. The Committee requested the secretariat to include in the final version of the Manual, in cooperation with the expert from the United Kingdom, the principles for the classification of organic peroxides and self-reactive substances as they appeared in chapters 11 and 14 of the Recommendations.

32. It also requested the secretariat, in cooperation with the expert from the United Kingdom and CEFIC, to add a new appendix 5 giving an example of a test method for emergency vent sizing of tank-containers on the basis of document -/C.3/R.572.

33. The Committee adopted the working group's recommendations for the work to be carried out during the next biennium without, however, regarding it as a matter of priority:

(a) Consideration of test 6 (c) which represented the key test for

assignment to a hazard division of Class 1 and the exemption of energetic industrial chemicals from the provisions of Class 1;

(b) Simplification of the A test series since it still constituted a mixture of old and new tests;

(c) Development of a United Nations pressure vessel test to replace the present vessel test in series E;

(d) Harmonization of temperature control and exemption requirements for organic peroxides and self-reactive substances;

(e) Exemption of unsaturated solutions of solid oxidizing substances;

(f) Simplification of the classification procedure for self-heating substances of Division 4.2.

34. The expert from Japan said that harmonization of the pressure vessel test was necessary and that this matter should be included in the programme of work for the next biennium. He said also that he was prepared to cooperate in carrying out that work.

35. The Committee welcomed the efficiency of the working group in completing this difficult task of rationalizing the Manual of Tests and Criteria within the allotted time. It unanimously expressed its gratitude to Dr. T. Roberts (United Kingdom) who had personally compiled the various successive versions of the draft Manual over a period of four years and had edited, corrected and meticulously checked the successive texts. His dedication had also allowed the secretariat to save valuable time for the preparation and translation of the documents.

36. The expert from the United States of America announced his intention of inviting interested experts to take part in a working group which could study criteria concerning risks of projection, Division 1.4 S and other questions relating to Class 1.

37. Several experts said that they opposed any fundamental review of the Manual during the next biennium, considering that it would be better to gain experience in using it when it became applicable according to the modal regulations before envisaging revising it. In view of the discussion, the expert from the United States of America withdrew his proposal to host a meeting.

**(c) Listing and classification (organic peroxides and self-reactive substances)**

Documents : ST/SG/AC.10/R.443 (Secretariat) (Chapters 11 and 14)
ST/SG/AC.10/C.3/R.576 (CEFIC)
ST/SG/AC.10/R.480 (CEFIC)
ST/SG/AC.10/C.3/R.586 (United States of America)
ST/SG/AC.10/R.481 (CEFIC)
ST/SG/AC.10/R.483 (CEFIC)
ST/SG/AC.10/R.485 (CEFIC)
Informal documents INF.14 (CEFIC) and INF.15 (United States of America)

38. The basic document -/R.443 was considered by the Committee, while the other documents, in particular on the amendments to tables 11.3, 11.4 and 11.5, the carriage of organic peroxides in bulk, in IBCs and in tanks, and the packing of organic peroxides, were transmitted to the working group on the rationalization of the Manual of Tests and Criteria (see also annex 4). The amendments adopted can be found in annex 3.

**(d) Class 1 (explosive) matters**

**(i) Packing methods**

Documents: ST/SG/AC.10/R.442 (United Kingdom and France)
Informal documents INF.7 (France), INF.8 (United Kingdom), INF.32 (Germany), INF.39 (Australia)

39. The documents were considered in detail by a drafting group. The texts adopted by the Committee are reproduced in annexes 1 and 2.

**(ii) Listing and classification**

**Classification of picramic acid**

Documents: ST/SG/AC.10/C.3/R.525 (Germany)
ST/SG/AC.10/R.491 (Germany)
Informal document INF.11 (United Kingdom)

40. The Committee decided to insert a new entry UN 3317 for picramic acid, wetted with not less than 20% water, by mass, and to use the IUPAC name for this entry (see annex 1).

**Mixtures of nitroglycerin and sugars**

Documents: ST/SG/AC.10/C.3/R.369/Rev.1 (United Kingdom)
ST/SG/AC.10/C.3/R.387 (Germany)
Informal documents INF.22 (secretariat) and INF.30 (United Kingdom)

41. The documents were considered by a drafting group, and a new entry UN 3319 was included in chapter 2 for mixtures of nitroglycerin in Division 4.1, while two new special provisions 271 and 272 were added to chapter 3 (see annex 1).

**Classification of dinitrosobenzene (wetted)**

Document: ST/SG/AC.10/C.3/R.524 (Germany)

42. The expert from Germany had agreed at the ninth session of the Sub-Committee to present a new proposal once the series 6 tests had been carried out on this substance (see ST/SG/AC.10/C.3/18, paras. 14 and 15). Since the tests had not been carried out, he withdrew his proposal.

**UN 3268 (Air-bag inflator units, air-bag modules, seat-belt pre-tensioners, seat-belt modules)**

Documents: ST/SG/AC.10/R.466 (France)

ST/SG/AC.10/R.488 (Japan)

43. These proposals, announced at the ninth session of the Sub-Committee (see ST/SG/AC.10/C.3/18, paras. 123 and 124), to delete seat-belt modules from the description of the entry UN 3268 and to revise special provision 235 were adopted with amendments proposed by the expert from the United States of America (see annex 1).

**(e) Listing and classification (chapters 2 and 3)**

**UN 2623**

Document: ST/SG/AC.10/R.459 (United Kingdom)

44. The proposal to amend paragraphs 14.2.1.4.1 and 14.2.1.4.2 (f) to take the amendments of entry UN 2623 into account was adopted.

**Sodium/sulphide - sodium/nickel chloride batteries**

Documents: ST/SG/AC.10/R.439/Rev.2 (Germany)
ST/SG/AC.10/R.461 (Germany)

45. The proposal by Germany to amend special provision 239 to reflect differences in properties between batteries containing liquid sodium and those containing solid sodium was not adopted.

**Reclassification of substances meeting the inhalation toxicity criteria for packing group I**

Documents: ST/SG/AC.10/C.3/R.592 (United States of America)
ST/SG/AC.10/R.490 (United States of America)

46. Document -/R.490 contains data sheets on the substances which the expert from the United States of America proposed to reclassify in document -/C.3/R.592.

47. The proposals concerning the reclassification in Division 6.1, packing group I, of the substances:

UN 1510 TETRANITROMETHANE (Division 5.1),
UN 1746 BROMINE TRIFLUORIDE (Division 5.1),
UN 1754 CHLOROSULPHONIC ACID (Class 8),
UN 1810 PHOSPHORUS OXYCHLORIDE (Class 8),
UN 1834 SULPHURYL CHLORIDE (Class 8),
UN 1838 TITANIUM TETRACHLORIDE (Class 8)
UN 2442 TRICHLOROACETYL CHLORIDE (Class 8),
UN 2826 ETHYL CHLOROTHIOFORMATE (Class 8),

were not adopted. A number of experts considered that the corrosive or oxidizing properties of these substances took precedence over their toxic properties. Some experts expressed regret that these existing classifications did not meet the precedence criteria, while others opposed systematic reclassification based on criteria.

48. Proposals concerning the reclassification in Class 6.1, packing group I, of the substances UN 1809 PHOSPHORUS TRICHLORIDE (class 8), UN 3023 tert-OCTYL MERCAPTAN (Division 6.1, Packing Group II), UN 2477 METHYL ISOTHIOCYANATE (Class 3), UN 2487 PHENYL ISOCYANATE (Division 6.1, Packing Group II) and UN 2488 CYCLOHEXYL ISOCYANATE (Division 6.1, Packing Group II) were adopted, together with the relevant amendments to chapter 12 (see annexes 1 and 2).

49. The expert from Italy said that he was concerned about the new reclassifications since he did not think that the timing was right, in view of the discussions which had taken place on the overall harmonization of the classification systems, which were liable in the near future to call into question all reclassification decisions taken to date. The expert from France supported that opinion.

50. The acting Chairman also recalled the Committee's decision of principle at its last session (ST/SG/AC.10/19, para. 204) to limit reclassification proposals to a strict minimum. It was difficult for the modal organizations to keep up with these reclassifications, which did not necessarily result in improved safety. It would therefore be advisable to comply with the principles laid down by the Committee, particularly in the forthcoming overall revision of criteria.

**Hydrates of inorganic substances**

Document: ST/SG/AC.10/R.467 (Australia)

51. The expert from Canada introduced the proposal by the observer from Australia, which was adopted (UN 3253, see annex 1).

**Special provision 61**

Document: ST/SG/AC.10/R.470 (HMAC)

52. The proposal to delete the second part of special provision 61 was adopted and, on the proposal of the expert from Belgium, this provision was amended to indicate that a suitable name to be used in the transport document in addition to the proper shipping name n.o.s. of pesticide entries could be found in table 6.1.

**Table 6.1**

Document: ST/SG/AC.10/R.471 (secretariat)

53. Following the Sub-Committee's recommendation to delete the columns concerning concentration in the pesticides table 6.1 and to refer to the $LD_{50}$ values given in WHO guidelines for the classification of pesticides, the secretariat had prepared, in cooperation with the observer from Switzerland, a comparison between table 6.1 and the $LD_{50}$ values given by WHO. The comparison

suggested that table 6.1 contained some 50 pesticides which should not appear in it since they did not meet the criteria, while on the other hand it omitted another 50 or so pesticides which should appear in it according to the criteria.

54. The Committee decided to follow the recommendations of the Sub-Committee, i.e. to keep the table as it is without the columns concerning concentrations, and to take up the question again during the next biennium, after document - /R.471 had been checked for accuracy. The representative of CEFIC and other delegations agreed to provide comments on the document.

**Precedence of hazard table**

Documents: ST/SG/AC.10/C.3/R.440 and Corr.1 (Germany)

55. These documents on the precedence of hazard table were withdrawn by the expert from Germany.

**Flammable liquids, not sustaining combustion**

Document: ST/SG/AC.10/R.484 (United States of America)

56. The proposal by the expert from the United States of America contained the principles of the proposal by HMAC (ST/SG/AC.10//C.3/R.487) which had not been adopted by the Sub-Committee (ST/SG/AC.10/C.3/18, paras. 96 to 99) and was intended to exempt certain flammable liquids not sustaining combustion when carried under certain conditions (when the liquid contained less than 90 per cent by mass of one or more components with a flash point greater than 60.5° C, did not sustain combustion according to the test methods in paragraph 5.7 of the Recommendations and was in a packaging or an inner packaging of a capacity not exceeding five litres). The proposal received no support and was not adopted.

**Other proposals**

57. In an informal document INF.37, CEFIC presented information to support the Sub-Committee's recommendation to cease to consider ethylene glycol monobutyl ether (UN 2369) as a substance of Division 6.1. This information suggested that there would be no reason to invoke human experience in order to consider this substance as toxic.

58. The representative of Italy said that he did not accept CEFIC's argument. He was opposed to using the concept of human experience in a negative sense as in the CEFIC document where cases in which no intoxication had taken place were quoted to justify the absence of toxicity.

59. The Committee confirmed the Sub-Committee's position and entry UN 2369 was deleted.

**(f) Class 2 (gases), including ISO work on standards for gas cylinders and quality assurance**

Documents: ST/SG/AC.10/C.3/R.550 (Netherlands)

60. Paragraphs 1, 6 and 7 of this document remained to be discussed (see ST/SG/AC.10/C.3/18, paras. 86 and 87). With regard to the proposed definition of pure gases, the expert from the Netherlands said that the proposed definition would be relevant for determining filling degrees and test pressures for tanks in accordance with Chapter 12. However, in view of the ongoing discussion on this matter, he withdrew his proposal.

61. Since it had been possible to check the data concerning the $LC_{50}$ of trifluorochloroethylene, inhibited (UN 1082), this substance was reclassified in Division 2.3, with subsidiary risk 2.1, and the entry in table 12.1 had also been amended. It was also decided to have two separate entries for liquefied anhydrous ammonia (UN 1005) and ammonia solution with a relative density of less than 0.880 at 15° C in water, with more than 50% ammonia (new entry UN 3318) (see annex 1).

**Classification of chlorine**

62. The Committee confirmed the deletion of the Division 5.1 subsidiary oxidizing risk for chlorine, although chlorine was considered to be highly oxidizing according to ISO 5145:1990. It was pointed out that the concept of oxidizing capacity in this standard did not completely match the concept of "oxidation" according to the definition of Division 5.1 (substances which "cause, or contribute to, the combustion of other material"). Moreover, according to paragraph 5.2.4 of standard 10 156:1990, it was not certain that tests to determine the oxidizing capacity of such gases had been carried out in a chlorine atmosphere.

63. The expert from France said that, if reference was made to ISO standards in the Recommendations, it should be ensured that there was a correlation between the classifications obtained according to those standards and those of the Recommendations. The representative of ISO, who had mentioned a forthcoming revision of those standards, was requested to bring the question to the attention of the appropriate technical committee.

**Activities of ISO**

64. The representative of ISO briefly reviewed the status of the work of the TC 58 technical committee and the programme of work (informal document INF.36). He confirmed the cooperation between ISO and the European Committee for Standardization (CEN) in this sphere, but recalled that ISO standards should be applicable worldwide, so that the work of ISO might be more demanding and time-

consuming than that of CEN.

65. The Committee drew attention to ongoing work on the overall harmonization of classification and labelling systems and, taking note of the draft standards ISO/DIS 10 298 and ISO/DIS 13 338 on the determination of toxicity and corrosiveness of gases which were discussed by the Sub-Committee (see also ST/SG/AC.10/C.3/R.495 and -/R.504 and ST/SG/AC.10/C.3/18, paragraphs 72 and 76), it expressed the hope that ISO would take part in the work of the coordinating group for the Harmonization of chemical classification systems of the International Programme on Chemical Safety. The Committee also stressed the importance of submitting draft standards to the Sub-Committee within the required deadline, so that the TC 58 Committee could take into account the comments made and facilitate future references to those standards.

66. In response to a question by the expert from the United States of America, it was noted that the work of ISO on quality assurance programmes had not advanced to the point where it could likely be considered in the programme of work for the next biennium.

**(g) Class 8 (Corrosives), including test methods for determining metal corrosion**

67. The representative of ISO confirmed that the reference to P3 type steel in paragraph 8.4 (b) was no longer correct since that type of steel was not used any more and was not covered by the revised ISO 2604 standard. The new reference is P235 type steel according to ISO 9328 (II) : 1991.

**(h) Matters related to packagings and IBCs**

**Salvage packagings**

Documents: ST/SG/AC.10/R.468 (HMAC)
ST/SG/AC.10/R.496 (United States of America)
ST/SG/AC.10/R.443

68. After considerable discussion on how to deal with salvage packagings in the Recommendations, which led to the question of whether provisions for such packagings should be introduced into the ninth revised edition of the Recommendations or whether the matter should be discussed in detail during the next biennium before establishing those provisions, the Committee decided by a small majority to include the provisions in the next edition, since the question had already been under consideration for two years.

69. The expert from Germany said that he would reserve his position on that decision and that he would not support the inclusion of pertinent requirements in the modal regulations, since not all problems concerning the actual use of those packagings in practice had been solved.

70. The proposal by the expert from the United States of America to simplify test requirements for such packagings as part of a more pragmatic approach (-/R.496), and with reference to paragraph 9.7.1.11, was not adopted. He subsequently withdrew his proposals concerning paragraphs 9.2.1 and 9.1.9.

71. The proposal by HMAC (-/R.468) to establish the level of the test at the packaging group II performance level for these packagings was adopted (see annex 3, amendments to paras. 9.7.1.11 and 9.5.6).

72. The Committee considered that the second sentence of paragraph 9.1.9 was not superfluous and HMAC's proposal to delete it was not adopted.

73. The provisions concerning salvage packagings contained in document ST/SG/AC.10/R.443 were adopted as amended.

74. The expert from Belgium entered a reservation on the test conditions of paragraph 9.7.1.11 (a), since he considered that it was not possible to add bags accurately to a packaging filled with water without affecting the test results.

75. The expert from Argentina stated that he felt that the introduction of provisions for salvage packagings would create legal and technical problems at national and international transport levels, and he entered a reservation on these new provisions.

**Packagings for infectious substances**

Document: ST/SG/AC.10/R.469 (HMAC)

76. The proposal to insert the letter "U" in the marking of packagings meeting the requirements of paragraph 6.14.8 was adopted. An alternative proposal by Canada (INF.9) was not adopted.

**Definitions and criteria for the tightness of packages**

Document: ST/SG/AC.10/C.3/R.552 (Germany)

77. The Committee agreed to include the question of definitions and criteria for the tightness of packages in the programme of work of the next biennium, on the understanding that there would be no question of preparing detailed requirements in this area which would involve standards.

**Editorial review of chapter 16**

Document: ST/SG/AC.10/C.3/R.526 (Brazil)

78. The expert from Brazil said that he had received comments on his proposal,

which had already been submitted to the Sub-Committee (ST/SG/AC.10/C.3/18, para. 142), and that he had not yet produced a definitive text; he proposed that the work should be postponed until the next biennium. The Committee adopted that proposal and suggested that the revision should be envisaged in the context of the possible restructuring of the Recommendations.

Document: ST/SG/AC.10/R.443

79. The Committee adopted the amendments to chapters 9 and 16 of the Recommendations contained in this document, subject to the amendments adopted during the discussion of the foregoing documents.

80. All these documents were submitted to the portable tank working group. It was recalled that the main goal of the group's work was to arrive at a definition of types of portable tanks which could be used in international multimodal transport without being obstructed by modal or particular regional regulations.

81. The Chairman of the working group, Mr. Schultz-Forberg (Germany) made an oral report at the end of the group's discussions. Since the review of Chapter 12 would have to continue during the next biennium, the final report would be distributed separately as a document submitted to the Sub-Committee at its tenth session (ST/SG/AC.10/C.3/R.595 and -/Add.1).

82. The working group, having considered document -/R.455 from Belgium where a problem concerning the use of tanks with a maximum allowable working pressure much higher than needed was pointed out, concluded that the risk was negligible and that no measures should be taken.

**(i) Review of chapter 12 and the multimodal tank tables**

Documents: ST/SG/AC.10/C.3/18/Add.4 (texts adopted by the Sub-Committee at its ninth session)
ST/SG/AC.10/C.3/R.253, -/C.3/R.422, -/C.3/R.484, -/C.3/R.587, -/C.3/R.591 (United States of America)
ST/SG/AC.10/C.3/R.584 (United States and Canada)
ST/SG/AC.10/R.478 (United States of America)
ST/SG/AC.10/C.3/R.570 (IMO)
ST/SG/AC.10/R.450 (France)
ST/SG/AC.10/R.455 (Belgium)
Informal document INF.10 (France)

83. As the working group on portable tanks did not discuss document ST/SG/AC.10/C.3/R.570 (IMO), the Committee agreed to defer the discussion of that document to the next biennium. The Committee noted that certain proposals in that IMO document, such as the deletion of certain Packing Group III corrosive substances entries from Chapter 12, are not consistent with the classification in chapter 2.

**(j) Review of chapter 15 (Dangerous goods in limited quantities)**

Document: ST/SG/AC.10/C.3/R.511 (Italy)

84. The expert from Italy, noting that requirements differed considerably according to the transport mode in the case of the transport of dangerous goods in limited quantities, excepted quantities or exceptions, proposed basic principles for the standard definition of these concepts and suggested that a full discussion of the subject should take place in the next biennium.

85. A number of delegations supported this proposal, stressing that in the absence of specific requirements, administrations spent considerable time approving case-by-case exceptions for the private transport of tiny quantities of dangerous goods. It was, however, emphasized that each transport mode had its own special requirements. The Committee agreed to include the subject in its programme of work and agreed to the basic principles in chapter 15 as proposed by the expert from Italy.

Document: ST/SG/AC.10/C.3/R.514 (IMO)

86. The Committee took note of the IMO decision to require the marking of transport units carrying dangerous goods in limited quantities with the words "LIMITED QUANTITIES" (ST/SG/AC.10/C.3/16, para. 126 and ST/SG/AC.10/C.3/18, paras. 149 and 150). The Committee decided to study this question in the context of the review of chapter 15 in the next biennium.

**(k) Segregation requirements for dangerous goods**

87. The Committee adopted the text prepared by the Sub-Committee for a new section 13.12 (ST/SG/AC.10/R.443).

**(l) Systematic list of entries (extension of appendix A)**

Documents: ST/SG/AC.10/C.3/R.460 (Netherlands)
ST/SG/AC.10/C.3/R.481 (Netherlands)
ST/SG/AC.10/R.479 (Netherlands)

88. The Committee welcomed the considerable work done by the expert from the Netherlands in preparing a systematic list and noted that a computer program had been developed to allow a direct conversion of chapter 2 into the format of systematic listing by groups of substances. It should, a priori, be possible to use this programme for both the numerical and alphabetical lists.

89. After a discussion on the advantages and disadvantages of the list as noted by the Sub-Committee (see ST/SG/AC.10/C.3/18, para. 129), the Committee took the following decisions:

(a) The systematic list would not be included in the ninth revised edition of the Recommendations;

(b) The systematic list would not be published as a separate document following the present session;

(c) The question of the systematic grouping of dangerous goods remained on the programme of work in the context of the future reformatting of the Recommendations.

90. The expert from the Netherlands said that, in view of these decisions, he would prepare an updated version of the systematic list as a working document.

**(m) Other matters**

Documents: ST/SG/AC.10/R.477 (United States of America)
ST/SG/AC.10/R.498 (United Kingdom)
Informal documents INF.9 (Canada), INF.29 (Sweden)
INF.41 and INF.42 (ICAO)

91. All these documents contained a large number of proposals concerning Division 6.2. The expert from Italy recalled that he was opposed to any change in these provisions, which had just been included in the eighth revision of the Recommendations and in the modal regulations before any experience had been gained in their implementation.

92. Among the new proposals, only those concerning paragraph 6.9.1 in informal document INF.29, 6.9.2 in document -/R.477, and 6.9.5 in paragraph 4 of informal document INF.9 were adopted (see annex 3).

**NEW PROPOSALS TO AMEND THE RECOMMENDATIONS**

**(a) Outstanding proposals referred to the Committee by the Sub-Committee**

**Radioactive material**

Documents: ST/SG/AC.10/C.3/R.508 (Italy)
ST/ST/SG/AC.10/R.486 (IAEA)
Informal document INF.19 (IAEA)

93. The Committee adopted the amendments to the entries and special provisions concerning radioactive materials of Class 7, as proposed by IAEA in INF.19 (see annexes 1 and 3).

**Aerosols with subsidiary risks**

Document : ST/SG/AC.10/C.3/R.590 (United States of America)

94. This document was deferred for consideration by the Sub-Committee in the

next biennium.

**Vinylpyridines**

Document : ST/SG/AC.10/C.3/R.593 (United States of America)
ST/SG/AC.10/R.123 (United Kingdom)

95. The Committee did not agree to reclassify vinylpyridines into class 8 but accepted to add subsidiary risk 8.

**Diesel fuel**

Document : ST/SG/AC.10/R.444 (ICAO)

96. It was recalled that though the flashpoint of diesel fuel may be above 60.5 °C (c.c.) the grades used in winter and summer are different and the RID/ADR Joint Meeting had decided, in consultation with the European petroleum industry, to consider all grades as flammable for practical reasons and for avoiding repeated testing. The proposal of ICAO to add special provision 223 against UN 1202 was not adopted.

**Refrigerating machines**

Document : ST/SG/AC.10/R.445 (ICAO)

97. The proposal to amend the description for UN 2857 and to amend special provision 119 (with a modification to take account of air conditioning units) was adopted (see annex 1).

**Methanol**

Document : ST/SG/AC.10/R.446 (ICAO)

98. The proposal to exempt methanol from the subsidiary risk 6.1 label provision was not adopted, as there is sufficient human experience to show that ingestion of methanol has occurred many times with disastrous effects.

**Sodium Borohydride solutions**

Document : ST/SG/AC.10/R.447 (United States of America)

99. The proposal for a new entry, as amended in informal document INF.16, was adopted (see annex 1).

**2-Bromo-2-Nitropropane-1,3-diol**

Document : ST/SG/AC.10/R.448 (United Kingdom)
ST/SG/AC.10/R.495 (United States)

100. The proposal by the expert from the United Kingdom to reclassify UN 3241 from division 6.1 to division 4.1 without subsidiary risk was adopted at a small majority (see annex 1).

**Viscous flammable liquids**

Document : ST/SG/AC.10/R.451 and -/R.452 (CEPE)

101. The proposals to amend paragraph 5.6 (d) to allow relaxation for viscous flammable liquids in receptacles of not more than 450 litres and paragraph 5.3.5 to add new exemptions for viscous substances with a flashpoint of 23 °C or above and less than or equal to 60.5 °C were adopted.

102. The expert from the United States of America took exception to the adoption of the proposals of CEPE in -/R.452 which in his views reduce transport safety for liquids having a relatively low viscosity to an unacceptable level. He stated that such substances should only be exempted from class 3 on the basis of tests indicating that such substances are not able to sustain combustion.

103. The expert from Germany said that the combustibility test had been introduced in Chapter 5 to allow exemptions for flammable liquids with a flashpoint above 35 °C which do not sustain combustion, in accordance with paragraph 1.19 and not for any viscous liquid. He stated that the conditions of exemptions proposed by CEPE, i.e. viscosity and restriction to receptacles with a capacity of less that 450 litres were acceptable from the safety standpoint for allowing exemptions from the Recommendations.

**(b) New proposals**

**UN 2031 and UN 2032 (Nitric acid)**

Document : ST/SG/AC.10/R.454 (CEFIC)

104. The proposal to replace the references to the "red fuming" properties by references to a 75 % concentration for differentiating the two entries UN 2031 and 2032 was not adopted. Certain experts regretted the lack of technical data supporting the proposal, and other experts felt that a 65 % limit would be more appropriate as they considered that 70 % concentrations should be assigned a subsidiary risk 5.1 label.

**Sulphur trioxide in the uninhibited state**

Document : ST/SG/AC.10/R.454 (CEFIC)

105. The proposal to amend the entry for UN 1829 to authorize the carriage of sulphur trioxide when it is stabilized by temperature control was adopted with editorial modifications (see annex 1).

**Use of asterisks in chapter 2**

Document : ST/SG/AC.10/R.456 (Secretariat)

106. The suggestion by the secretariat to replace asterisks after proper shipping names in Chapter 2 with a special provision was adopted (see annex 1).

**Fluoroanilines**

Document : ST/SG/AC.10/R.458 (United Kingdom)

107. The proposal to delete special provision 109 for UN 2924 and to delete fluoroanilines from Appendix A was adopted (see annexes 1 and 3).

**UN 2618 Vinyltoluene, inhibited, mixed isomers**

Document : ST/SG/AC.10/R.463 (United Kingdom)

108. The proposal to list the entry "Vinyltoluene" in the plural form in chapter 2 rather than to refer to mixed isomers was adopted (see annex 1).

**Isopentenes**

Document: ST/SG/AC.10/R.464 (China)

109. The proposal to delete the entry UN 2371 from chapter 2, as all isomers of isopentenes are already listed under UN 2459, UN 2460 and UN 2561, was deferred to the next biennum. The expert from Germany would prefer keeping UN 2371 with special provision 212 and deleting UN 2459, UN 2460 and UN 2561. Attention was also drawn to Table 12.2 in chapter 12 where a minimum test pressure of 6 bars is required for UN 2371 whilst a minimum test pressure of 4 bars is required for two of the isomers.

**Expression of subsidiary risks**

Document: ST/SG/AC.10/R.474 (Belgium)

110. The editorial amendments proposed by the expert from Belgium to avoid confusion between the primary class or division and the subsidiary risk were not adopted, as it was considered that this matter could be raised when restructuring the Recommendations.

**Corrections to chapter 2**

Document: ST/SG/AC.10/R.475 (United States of America)

111. The corrections proposed for the entries UN 3154 (chapter 2 and index) and UN 3292 (Index) were adopted (see annexes 1 and 3).

**Maneb**

Document: ST/SG/AC.10/R.476 (United States of America)

112. The proposal to add a new special provision to exempt maneb and maneb preparations stabilized against self-heating from the provisions of division 4.2 depending on the results from tests to be carried out on 1 $m^3$ samples was adopted (see annex 1).

**Composite IBCs with plastics inner receptacle (flexible) type 31HZ2**

Document : ST/SG/AC.10/R.497 (United Kingdom)

113. The original document was modified by the expert from the United Kingdom, and a revised document was submitted as informal document INF.21. The expert from the United Kingdom explained that the use of such IBCs was justified by increased pressures for a reduction in the amount of packagings in national and international authorities, and that the IMO would not agree to the use of such IBCs for packing group III liquids if additional safeguards were not included in Chapter 16. Similarly, the RID/ADR Joint Meeting would not accept additional safeguards which were not reflected in Chapter 16.

114. Several experts did not agree to add new construction specifications and operational requirements in Chapter 16 for a specific type of IBCs as they considered that the suitability of IBCs for transport was determined by performance tests.

115. Other experts considered that it was premature to include such provisions in the ninth edition of the Recommendations, but the Committee decided after a vote to consider the six proposals contained in document INF.21, which were adopted (see annex 3) except the proposed second sentence and last six words of the new paragraph 16.5.3.1.1.

**Pentane-2,4-dione**

Document: ST/SG/AC.10/R.462 (Germany)

116. The proposal to reclassify UN 2310 into division 6.1 was not adopted but it was agreed to add a subsidiary risk of division 6.1 (see annex 1).

**Engine starting fluid**

117. An informal proposal (INF.6) from the expert from Canada to delete the entry

UN 1960 (engine starting fluid) from chapter 2 because such products may be carried under the entry 1950 AEROSOLS was adopted (see annex 1).

**ACTIVITIES RELATED TO THE IMPLEMENTATION OF AGENDA 21**

Documents: ST/SG/AC.10/C.3/R.412, -/R.413, -/R.414, -/R.415, -/C.3/R.396, -/C.3/R.397, -/C.3/R.554 (Secretariat)

118. The acting Chairman summed up the activities which had taken place since the adoption of "Agenda 21" by the United Nations Conference on Environment and Development in June 1992 (General Assembly resolutions 47/190, 47/191, 47/194, establishment of the Commission on Sustainable Development, International Conference on Chemical Safety) and the work of the Sub-Committee concerning the implementation of Chapter 19 of Agenda 21, with particular reference to the harmonization of classification and labelling systems (see ST/SG/AC.10/C.3/14, paras. 102 to 124, ST/SG/AC.10/C.3/16, paras. 134 to 153 and ST/SG/AC.10/C.3/18, paras. 160 to 192).

119. The representative of ILO brought the Committee up to date on the activities of the Coordinating Group of the International Programme on Chemical Safety (IPCS) on the Harmonization of Classification and Labelling Systems. In particular, he informed the Committee of the conclusions of this Group which had met in Geneva on 21-22 November 1994.

120. Several delegations expressed concern at the increasing number of bodies or organizations involved in this work, and the complexity of the links and mechanisms for coordination between all these new bodies. They also expressed concern at the status and mandates of the group set up by the International Conference on Chemical Safety and the status of the Intergovernmental Forum on Chemical Safety vis-à-vis the United Nations. The representative of ILO offered to prepare an organizational chart to clarify the situation. The representative of Germany asked the secretariat to distribute if possible the draft "Memorandum of Understanding" between organizations cooperating within a new Interorganization Programme on the Sound Management of Chemicals (IPSMC) (WHO, ILO, UNEP, FAO, UNIDO, OECD).

121. With regard to the results of the International Conference on Chemical Safety (Stockholm, Sweden, 25 to 29 April 1994) (-/C.3/R.554), the Committee noted that the resolution on the Priorities for Action adopted by the Forum for the implementation of Chapter 19 had been endorsed by the Commission on Sustainable Development (CSD) at its second session (May 1994) and that the CSD had invited Governments, international organizations and competent non-governmental organizations to implement this resolution, urging them to participate actively in the work of the Forum and recommending that they should establish close relations with IPCS and the Forum. The Economic and Social Council had supported the decisions and recommendations of the CSD in this area and had invited Governments and organs, organizations, programmes and funds of the United Nations system and other intergovernmental organizations and major groups to implement them and to take the necessary action to give them effective

and transparent follow-up (Decision 1994/300).

122. With regard to the Forum's recommendation that an international framework for translating the result of the technical work on harmonization into an instrument or recommendations applicable legally at the national level should be established at an appropriate time (Programme area B, para. 3), the expert from Italy said that it would be worthwhile preparing an international agreement on classification and labelling when the work of overall harmonization was complete. Several other experts said that they opposed such an agreement and would prefer a more flexible system of recommendations.

**(a) Harmonized criteria for toxicity**

Documents: ST/SG/AC.10/C.3/R.467 (United States of America)
ST/SG/AC.10/C.3/R.589 (IPCS)
ST/SG/AC.10/C.3/R.523 (Germany)

123. The representative of OECD said that the competent group in his organization had been unable to come to an agreement on the threshold values for the acute toxicity criteria given in table 1 of document -/C.3/R.589. He expressed the hope that the Committee would take a provisional decision on those values, given that further consultations were required within his organization to reach a consensus.

124. The Committee confirmed the positions expressed by the Sub-Committee in this regard and considered that it would be advisable to await the full development of a consistent set of criteria which would command consensus before amending the Recommendations.

125. The Committee therefore stated that, with a view to overall harmonization and in the framework of the proposals set out in table 1 of document -/C.3/R.589 submitted by IPCS, it would be in favour of:

(a) lowering the threshold value of 500 mg/kg to 200 mg/kg for the liquid oral ingestion toxicity criterion;

(b) amending the upper threshold value of 40 mg/kg for dermal toxicity (packing group I) to a value of 50 mg/kg;

(c) retaining the threshold values for dusts/mists inhalation toxicity of 0.5 mg/l ($CL_{50}$, 4 hours) for packing group II and 2.5 mg/l ($CL_{50}$, 4 hours) for packing group III.

126. The Committee also confirmed that:

(a) the most appropriate unit of concentration for the gas and vapour inhalation toxicity criterion was ml/$m^3$ and not mg/kg.

(b) the "vapour pressure" criterion was not necessary for determining inhalation toxicity for packing groups II and III, but constituted an important parameter for determining the probability of the presence of a toxic gas in the air in the event of a leak of a toxic product of packing group I.

127. Noting that the question of the toxicity criterion for gas and vapour inhalation was still the subject of discussion within OECD, the Committee agreed to revert to the question in the next biennium.

128. The Committee also recalled the principle contained in paragraphs 6.2 and 6.3 of the Recommendations, namely, that in classification account should be taken of human experience in instances of accidental poisoning and of special properties possessed by any individual substance, such as liquid state, high volatility, any special likelihood of penetration, and special biological effects. It was only in the event of the absence of sufficient data regarding effects on human beings that the criteria in question were applied.

129. The expert from Germany expressed the hope that the criteria developed in the context of overall harmonization would be applicable not only to pure substances but also to mixtures and solutions and pesticide preparations.

**Particle size of the substances tested**

Document: ST/SG/AC.10/R.457 (Germany)

130. The proposal to clarify in what cases solid or liquid substances should be tested for inhalation toxicity, on the basis of the probability of dust or mist generation and particle size, was adopted.

**(b) Harmonized criteria for environmentally hazardous substances**

Documents: ST/SG/AC.10/C.3/R.222 (IMO)
ST/SG/AC.10/C.3/R.388 (United States of America)
ST/SG/AC.10/C.3/R.518 (IMO)
ST/SG/AC.10/C.3/R.522 (IMO)
ST/SG/AC.10/C.3/R.574 (Norway)
ST/SG/AC.10/C.3/R.583 (CEFIC)
ST/SG/AC.10/C.3/R.589 (IPCS)
ST/SG/AC.10/R.473 (Germany)

131. The Committee noted that there was still no consensus within OECD on criteria for environmentally hazardous substances as presented in table 2 of IPCS document -/C.3/R.589. In the absence of harmonized criteria, approaches differed according to countries and transport modes, for example, maritime transport (IMDG Code and Annex III of the MARPOL Convention) and road or rail transport in Europe

(RID/ADR). New provisions in RID/ADR would come into force on 1 January 1995, but a multilateral agreement had already been initiated to deal with solutions and mixtures.

132. The expert from Germany proposed that the questions he raised in document -/R.473 should be studied by a working group during the next biennium, taking into account the work carried out by OECD.

133. In response to the agreement reached at the ninth session of the Sub-Committee that the OECD criteria could be used as the basis for further discussion on the harmonization of criteria for environmentally hazardous substances, the representative from IMO offered to convene a working group of experts of the Committee from 1 to 5 May in London to facilitate the resolution of differences in criteria for environmentally hazardous substances used in transport as identified by the Committee and in the context of global harmonization. She requested all organizations currently using criteria to submit relevant documentation explaining how their criteria are used. Such documentation can be submitted to the IMO secretariat */.

134. The working group will consider the documents listed above, the criteria of Annex III of the MARPOL Convention, RID/ADR criteria and OECD criteria, in view of the stage reached in that Organization's work. The work should be restricted to criteria for dangerous goods included in the Recommendations, i.e. packed dangerous goods (packages, IBCs and tanks), and should not cover the bulk carriage of liquids or solid cargoes in seagoing or inland navigation vessels.

135. The Committee stressed the importance of mixtures and solutions and expressed the hope that the OECD coordinating group would prepare criteria which were not only applicable to pure substances but would provide pragmatic means of classifying commercial preparations and wastes.

136. The expert from Germany proposed that the working group should also consider whether it was necessary, as in the IMDG Code, specifically to identify environmentally hazardous substances, not only in class 9 but also in Classes 1 to 8. Taking into account the significant number of substances concerned, he proposed creating, for example, a new Division 6.3 for that type of hazard. The representative of CEFIC said that data concerning the environmentally hazardous nature of many substances of Classes 1 to 8 were not available and that it would be premature to envisage a task of that nature before the criteria were defined.

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137. The expert from France said that the specific identification of environmentally hazardous substances of Classes 1 to 8 was of no great importance for transport safety and that their identification as dangerous goods was sufficient for the emergency services which were provided with sufficient data by the United Nations number and the current labelling system to take the necessary action in the event of an accident. The expert from the United Kingdom shared this point of view.

138. The expert from Belgium said that before harmonizing criteria, the reasons which led to the development of the various criteria should also be explained, e.g. one of the aims of the criteria of MARPOL Annex III is to identify those goods which are marine pollutants so that the master of a ship may report to the relevant administration any incident involving the loss of packages containing such goods overboard and that appropriate steps may be taken by that administration to recover lost packages.

**(c) Hazardous wastes**

Documents: ST/SG/AC.10/C.3/R.536 (secretariat)
ST/SG/AC.10/C.3/R.578 (Japan)
Informal document INF.18 (UNEP)

139. The Committee took note of the results of the second meeting of the Conference of the Parties to the Basel Convention and the work planned to facilitate the implementation of the Convention, including a better definition of criteria for waste of categories H10 to H13.

140. The expert from Germany said that the criteria of Annex III of the Basel Convention were clear for categories H1 to H8 since it was sufficient to apply those of Classes 1 to 8 of the Recommendations, but that the entry into force of the Convention raised practical problems for the carriage of wastes of categories H10 to H13. Those wastes did not represent a hazard during transport, but did constitute a hazard for the environment if their disposal was not monitored. According to paragraph 1.9.2 of the Recommendations, they could be carried under entries UN 3077 or UN 3082 of Class 9 (environmentally hazardous substances). He suggested, however, that specific new entries should be created for such wastes so that they could be identified during transport; but without restrictive conditions being imposed on them.

141. The representative of IMO confirmed that, according to the IMDG Code, the consignor could use entries UN 3077 or UN 3082 in handing over wastes of categories H10 to H13 for carriage, but was not obliged to do so.

142. The expert from France said that he was not in favour of using transport regulations to settle problems concerning the disposal of wastes.

143. The Committee asked the secretariat to continue cooperation with the secretariat of the Basel Convention.

(d) **Harmonized criteria for physical hazards**

Documents: ST/SG/AC.10/C.3/R.364 (ILO)
ST/SG/AC.10/C.3/R.559 (secretariat)
ST/SG/AC.10/R.493 (ILO)
Informal documents: INF.23, INF.25 (IPCS), INF.44 (United Kingdom)

144. The Committee confirmed the Sub-Committee's position with regard to its contribution to the implementation of Chapter 19 of Agenda 21 with regard to the harmonization of classification and labelling systems (ST/SG/AC.10/C.3/16, paras. 137 to 143 and ST/SG/AC.10/C.3/18, paras. 164 to 170). It therefore responded favourably to the ILO and IPCS request to form, in cooperation with ILO, a working group to prepare proposals for globally harmonized criteria for the classification of flammable, explosive and reactive substances, based on the Manual of Tests and Criteria (-/C.3/R.364).

145. The Committee noted with satisfaction the report submitted by ILO (-/R.493) on the conclusions of an International Workshop on the harmonization of the classification of the physical hazards of chemicals organized by the Government of Canada in Ottawa from 31 August to 2 September 1994 to support ILO's work in that area. Those conclusions could also serve as a basis for future discussions.

146. The Committee adopted the proposal of the expert from the United Kingdom (INF.44) with regard to the organization of work, in particular the definition of three separate areas:

(a) flammability (flammable gases, liquids and solids);

(b) reactivity (explosives, reactive substances, oxidizing substances, organic peroxides);

(c) other hazards (corrosiveness in metals or other packing materials, containment under pressure, other hazards).

Areas (a) and (b) will be discussed by separate groups of experts during each of the Sub-Committee's sessions.

147. The Committee did not adopt the proposal by the United Kingdom whereby the groups would be independent of the Sub-Committee, since that would be tantamount to setting up a new subsidiary body, which would require the approval of the Economic and Social Council in July 1995 and would therefore delay the programme envisaged. The allocation of additional time for special sessions would also have financial implications which, even if minimal, would have to be approved by the Council.

148. So as to ensure that the final result of this work was in keeping with the

requirements of all sectors concerned (transport, employment, use, consumer protection), the experts of the Committee and government observers participating under rule 72 of the rules of procedure were requested to ensure that the representatives who took part in the work were familiar with all applicable legislation in their country in the area concerned, and that they could present a position which had been nationally coordinated in advance.

149. Representation was governed by the rules of procedure of the Economic and Social Council, as applied to the Committee. Non-governmental organizations which did not habitually take part in the Committee's work but which were interested in the harmonization of the classification of physical hazards could also take part, on the recommendation of the IPCS.

150. The working groups envisaged would not have interpretation services. In the interest of efficiency, each of these groups should have not more than 25 members and only organizations and Governments prepared to take an active part in the work should participate.

151. If necessary, in order to complete the work in the next biennium and to adhere to the timetable for the implementation of Agenda 21, or to lighten the workload of the Sub-Committee, the groups could meet inter-sessionally at the invitation of a Government or organization, which would in such cases be responsible for the organization of and the secretariat for the sessions.

152. The experts from the United Kingdom and Germany said that they would submit specific proposals as a basis for discussion in the areas of reactivity and flammability, respectively. All proposals or reports should be submitted to the secretariat 10 weeks prior to the opening of the Sub-Committee's sessions.

153. The IPCS coordination group would be kept regularly informed of the progress and results of the work and should bring to the attention of the Sub-Committee, through ILO, any missing element or special problem related to the proposals being prepared.

154. The expert from Germany said that, for the work on corrosiveness, the Committee was competent in the area of corrosiveness regarding metals or other materials, but that OECD seemed more competent in the preparation of proposals for the harmonization of criteria for corrosiveness with regard to skin tissues.

**ACTIVITIES OF INTERNATIONAL ORGANIZATIONS CONCERNED WITH REGULATIONS OR RECOMMENDATIONS ON THE TRANSPORT OF DANGEROUS GOODS AT AN INTERNATIONAL LEVEL**

Documents: ST/SG/AC.10/C.3/R.519 and R.521 (IMO)
Informal document: INF.17 (UPU)

155. The Committee was informed of the activities of the Economic Commission for Europe, ICAO, IMO, CCNR, OCTI, IAEA and IATA.

156. The Committee noted that new revised versions of the Technical Instructions

for the Safe Transport of Dangerous Goods by Air, the International Maritime Dangerous Goods Code (IMDG), the Regulations concerning the International Carriage of Dangerous Goods by Rail (RID), the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), and the Regulations for the Carriage of Dangerous Goods on the Rhine (ADNR) would come into force on 1 January 1995. The Committee also noted that the Council of the European Union had adopted a Directive which should make the provisions of the annexes of ADR applicable to domestic transport in the countries of the European Union.

157. In reply to a question by the representative of IRU, a member of the secretariat confirmed that the European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway had been revised by the Economic Commission for Europe (ECE) in conjunction with the revision of ADNR, but that the texts were not yet available.

158. The Committee took note of resolution C39/1994 of the Universal Postal Congress in Seoul, inter alia inviting postal Administrations, with the assistance of the International Office of the Universal Postal Union (UPU), to reinforce measures to prevent and detect the inclusion of prohibited and dangerous objects in postal consignments. The expert from Germany said that in Europe dangerous goods could be sent as international postal consignments by road under the provisions of ADR, which was applicable to that type of consignment.

159. The representatives of IMO and OCTI mentioned the difficulties experienced by their organizations every two years in updating the instruments for which they were responsible. Those difficulties were related to the considerable work involved in adapting the instruments to the new Recommendations, the need to translate the new texts into several languages, and the difficulty of ensuring the effective implementation of regulations which were too frequently amended, particularly in developing countries.

160. The representatives of IATA and of ICAO, however, said that they wished to keep the present two-year period so as to be able to reflect consignors' requirements and technical progress in the regulations. They stressed that approximately four years of procedures were currently required in the relevant United Nations bodies or organizations for a solution to a problem raised by industry to be reflected in the regulations and that a longer cycle could lead to a tendency to circumvent the regulations. The representative of ICAO further suggested that a contributing factor to difficulties encountered by other modes in maintaining a two-year cycle was the format of the regulations as ICAO successfully followed a biennium cycle.

161. In view of the improvement in harmonization between modal regulations based on the Recommendations, several experts expressed their support for the less frequent publication of the Recommendations; however, a procedure should be introduced for amendments related to urgent requirements of industry or particular instances requiring a rapid response. The Committee agreed to revert to the question during the discussion of item 8 (Publication of the revised Recommendations) (see para 167) and in accordance with the decisions to be taken

regarding the programme of work.

162. The representative of IRU suggested that, in order to improve harmonization, it would be useful to establish a recommended date for implementing new amendments which would appear in the resolution of the Economic and Social Council.

**RESOLUTION 1993/50 OF THE ECONOMIC AND SOCIAL COUNCIL AND DRAFT RESOLUTIONS 1995/XX AND 1995/XY**

163. The Committee noted with satisfaction that, in response to the request made by the Economic and Social Council in resolution 1993/50, the 8th revised edition of the Recommendations on the Transport of Dangerous Goods has been published in Chinese, English, French, Russian and Spanish, and that the Arabic version should be completed soon. Aware of the scarce resources of the United Nations translation services, the Committee commended the secretariat for its efficient response to that request. The other aspects of resolution 1993/50 regarding staff resources, implementation of the recommendations, relations with other organizations were discussed unde relevant agenda items.

164. The Committee prepared two new draft resolutions for consideration by the Economic and Social Council on its 1995 substantive session (see annex 5).

**PUBLICATION OF THE REVISED RECOMMENDATIONS**

165. As the next regular session of the Economic and Social Council was only scheduled for July 1995, the Committee, underlining the importance of issuing a new version of the Recommendations as soon as possible for ensuring the quickest implementation of these new recommendations by all modes of transport in a coordinated manner, invited the secretariat to prepare the ninth revised version without delay.

166. The secretariat was also invited to publish the rationalized Manual of Tests and Criteria as soon as possible. The expert from France congratulated the secretariat for having made available all basic documents related to the rationalized Manual of Tests and Criteria in French, and commended the French translation section of the Conference Services Division for their excellent work.

167. Referring to the discussion of the periodicity of amendments to the Recommendations (see paragraphs 159 to 161), the expert from Germany proposed (INF.45) that completely revised editions of the Recommendations after the 9th revised edition would be published every four years only, that a procedure for small-scale amendments to be adopted every two years should be established, and that no amendment to the Manual of Tests and Criteria should be adopted until the 1998 session of the Committee.

168. The representative from IMO indicated that IMO could agree to the timescales for amendments proposed by Germany in INF.45 since the IMO Maritime Safety Committee had already approved the time periods for amendments to the IMDG Code.

She expressed the view that with the introduction of new technology, smaller amendments on a 2 yearly cycle would be easier to produce as an interim solution, leaving larger amendments for 4 years. She drew attention to the fact that when IMO raised this issue within the Committee 2 years ago, it was because IMO member Governments had expressed difficulties in implementing frequent amendments to the Code and often had to grant transitional periods before an amendment could be fully implemented. This had raised the question of what was the purpose of introducing frequent amendments if they could not be implemented.

169. Recognizing that all member Governments present in this Committee are also represented in IMO, the IMO representative expressed concern that problems arise when Governments express different views in different form. She suggested that such differences should be resolved on a national level to enable governments to present a co-ordinated view in all form. The representative from OCTI expressed the same concerns.

170. The Committee noted that, if the possibility of small-scale amendments every two years is retained, it is more convenient for the United Nations publication section to sell, at least in English and French, a consolidated edition rather than to reprint the older edition and to sell it with a set of amendments published separately.

171. No decision could be made on this subject of peridocity of amendments. The difficulty experienced by international organizations and governments to update their respective instruments was recognized, but it was recalled that the Recommendations have been developed and are kept up to date in the light of technical progress, the advent of new substances and articles and the exigences of modern transport systems, and therefore there would be a risk for the Recommendations to become obsolete or not adapted to the technical progress if a four year interval period was adopted.

172. The expert from the United States of America said that Governments and international organizations may decide on the implementation date and that modal organizations should provide reasonable implementation schedules. He also felt that the industry should be allowed to use the new recommendations on a voluntary basis in the interim period. He also expected fewer amendments in the forthcoming period of global harmonization and restructuring.

173. The expert from Germany requested that his proposal in INF.45 should be formally circulated as an official document for discussion in the next biennium and reitareted his views that neither the Recommendations nor the Manual of Tests and Criteria should be amended until the 1998 session of the Committee.

**PROGRAMME OF WORK**

**Reformatting of the Recommendations**

Documents: ST/SG/AC.10/C.3/R.486 (United States of America)
ST/SG/AC.10/C.3/R.520 (IMO)

ST/SG/AC.10/R.449 (secretariat)
ST/SG/AC.10/R.494 (secretariat)
Informal documents INF.40 and INF.40/Add.1 (HMAC)

174. The proposal by the expert from the United States of America (-/C.3/R.486), already discussed by the Sub-Committee (see ST/SG/AC.10/18, paras. 220 to 223), was to have the Recommendations presented in a new form as model regulations which could be more easily adopted by the bodies or authorities responsible for the various national or international modal regulations; this would facilitate the work of all these bodies or authorities and ensure greater harmonization while leaving each national organization or authority to add the provisions specific to a particular transport mode or a particular country to this basic model. This proposal was accompanied by a complete copy of the Recommendations restructured along these lines, prepared and distributed to members of the Committee by HMAC.

175. The expert from Germany introduced documents -/R.449 and -/R.494 prepared by the secretariat on behalf of the Joint Meeting of the RID Safety Committee and the Working Party on the Transport of Dangerous Goods of ECE (RID/ADR Joint Meeting). He explained that, in 1992, the ECE Working Party on the Transport of Dangerous Goods had, at the request of IRU, initiated work on the restructuring of ADR, which was still in progress and was now being conducted jointly with the work of restructuring RID by the RID/ADR Joint Meeting. The Joint Meeting was in favour of the proposal by the United States of America, but since the model regulations in question would replace a large part of RID and ADR, it hoped that what had been achieved in the work of restructuring RID/ADR would be taken into account.

176. The expert from Germany summed up the principles governing the restructuring of RID/ADR as they appeared in paragraph 4 of document -/R.449.

177. The expert from France expressed the hope that profitable use would be made of the experience of the group on the restructuring of RID/ADR. He considered that the work of restructuring should result in a format which could be directly integrated into modal regulations, but that it would also be as well to take advantage of the restructuring to simplify the list in Chapter 2, so as to arrive at a system which maintained the same level of safety, while allowing developments in chemistry to be more easily integrated.

178. After long discussions on whether or not reformatting should be decided, what the purpose of reformatting should be, how to avoid overlapping with the work of the RID/ADR Joint Meeting, how to take account of the advice of all relevant organizations, how to organize the work, the Committee decided that it is necessary to reformat the Recommendations to make them more "user-friendly", and that they should be reformatted into a Model Regulation as proposed by the expert from the United States of America and taking account of the draft proposal from HMAC (INF.40 and Add.1) and the work currently under way by the RID/ADR Joint Meeting (R.449) in close cooperation with all organizations.

179. The Committee decided to establish a working group for reformatting the Recommendations which would meet during the session of the Sub-Committee under the chairmanship of Mr. Benassai (Italy). The principles governing such work are laid down in annex 6 to this report.

180. Noting that the RID/ADR Joint Meeting would discuss the restructuring of RID/ADR at its March 1995 session, the Committee felt that to avoid duplication of work and to progress more efficiently in the reformatting of the Recommendations, it would be useful to discuss jointly the restructuring of RID/ADR and the reformatting of the Recommendations in collaboration with other modal organizations such as IMO, ICAO and CCNR. The secretariat was asked to arrange to have an informal meeting of the working group on reformatting the Recommendations during the two last days of the Joint Meeting session.

181. A member of the secretariat said that experts representing Members of the United Nations which are not members from the Economic Commission for Europe may be invited to participate in Joint Meeting sessions in accordance with paragraph 11 of the terms of reference of the Commission.

182. In addition to experts representing members of the UN/ECE, experts from China and Japan expressed their interest in participating in the meeting of the working group on reformatting the Recommendations during the Joint Meeting session. Non governmental organizations not participating usually in the work of the Joint Meeting could also be invited.

183. The representative from IMO expressed concern about the timescale approved for the work on reformatting. She indicated that this would not give IMO sufficient opportunity to discuss this proposal within the Sub-Committee on the carriage of Dangerous Goods (CDG) and to comment on it. Since there is no CDG meeting planned until 1996 and since the basic principles for this work are expected to have been established during the 1995/1996 biennium, she emphasized that while IMO is committed to harmonization of classification, packing and labelling requirements through Assembly resolution A 717 (17), reformatting the Recommendations into a model rule would extend the scope of the UN Recommendations far beyond these requirements and would require considerable discussions within IMO before any view could be brought forward to this forum.

**Segregation requirements**

Document: ST/SG/AC.10/R.487 (Argentina)

184. The expert from Argentina proposed that his proposal relating to segregation requirements for such mode of transport should be studied in the context of reformatting. The Committee preferred that such proposals be submitted to the Sub-Committee first on the basis of new documents.

**Introduction of CAS numbers in the Recommendations**

Documents: ST/SG/AC.10/R.492, INF.4 and INF.5 (France)

185. The expert from France invited the experts of the Committee to send him comments on the introduction of CAS numbers in the Recommendations.

**Other matters**

Documents: ST/SG/AC.10/R.465 (Germany, Norway, Sweden, United Kingdom)
ST/SG/AC.10/R.472 (Germany)

186. The Committee agreed to include the following subjects in its work programme for the next biennum:

- Oversized packagings and packagings for large articles (-/R.465)
- Use of recycled plastics for the manufacture of packagings for dangerous goods (-/R.472).

187. The following programme of work has been adopted for 1995-1996:

(1) Global harmonization of classification criteria (Implementation of Agenda 21) (including health hazards, physical hazards, danger to the environment, and in cooperation with other organizations concerned);

(2) Reformatting of the Recommendations on the Transport of Dangerous Goods (see also annex 6);

(3) Review of Chapter 12 and of the multimodal tank tables;

(4) Review of Chapter 15 (Dangerous Goods in limited quantities);

(5) Listing and classification of reactive materials and related test methods and criteria (including amendments to the Manual of tests and criteria);

(6) Class 1 matters (Listing and packing) (including oversized packagings and packagings for large articles);

(7) Class 2 matters (including ISO work on standards for gas cylinders and quality assurance);

(8) Routine listing and classification;

(9) Matters related to packagings and Intermediate Bulk Packagings (including use of recycled plastics for the manufacture of packagings for dangerous goods);

(10) Infectious substances;

(11) Relations with other organizations;

(12) Other business.

188. The Committee decided that the following working groups should meet during the sessions of the Sub-Committee:

- working group on harmonized criteria for the classification of reactive materials (under the lead of the United Kingdom)

- working group on harmonized criteria for the classification of flammable materials (under the lead of Germany)

- working group on multimodal portable tanks (Chairman: Mr. Schulz-Forberg, Germany)

- working group on reformatting the Recommendations (Chairman: Mr. Benassai, Italy)

189. Items (1) to (3) listed in paragraph 187 are considered as the priority items of work for the biennium, and members of the Committee are invited to refrain from submitting unnecessary or non urgent proposals under the other items especially in the field of listing and classification. Except for proposals relating to items (1) to (3), the secretariat is requested not to process proposals received after the deadline and to defer them systematically to the following session.

190. The secretariat was requested to prepare the agenda and timetable of the Sub-Committee sessions accordingly and to make the necessary arrangements for the availability of rooms, if necessary in cooperation with the International Labour Office as proposed by its representative during the session.

191. The following documents were carried forward:

ST/SG/AC.10/C.3/R.488, -/R.526, -/R.529, -/R.552, -/R.570,-/R.590, -/R.591,
ST/SG/AC.10/R.441, -/R.450, -/R.460, -/R.464, -/R.471, -/R.473, -/R.485

as well as informal documents: INF.33 (Fuse, non detonating) (Germany), INF.35 (Plastics drums reconditioning) (ICDR), INF.45 (Periodicity of amendments) (Germany).

192. The expert from the United States of America said that he would prepare proposals for the carriage of toxic substances meeting the Packing Group I inhalation toxicity criteria.

**CALENDAR OR MEETINGS FOR THE BIENNIUM 1995-1996**

193. The dates for the Committee and its Sub-Committee in the biennium are:

| | |
|---|---|
| 10-21 July 1995 | Sub-Committee of Experts on the Transport of Dangerous Goods (tenth session) |
| 4-15 December 1995 | Sub-Committee of Experts on the Transport of Dangerous Goods (eleventh session) |
| 1-12 July 1996 | Sub-Committee of Experts on the Transport of Dangerous Goods (twelth session) |
| 2-13 December 1996 | Committee of Experts on the Transport of Dangerous Goods (nineteenth session) |

194. In order to comply with the deadlines fixed by the Conference Service Division, documents submitted for the tenth session of the Sub-Committee should reach the secretariat before 21 April 1995.

**OTHER BUSINESS**

195. A member of the secretariat informed the Committee that it was now possible

to transmit documents to the ECE Transport Division and conversely to have access to these documents using telecommunications, at least when such documents had been submitted in computerized form (Informal document No. 24); he gave a demonstration of the system. The Committee recalled that paper documentation was rarely received in time to enable it to be considered seriously prior to a session. It unanimously expressed its keen interest in the establishment of such a system; and hoped that steps would be taken to make it fully operational as rapidly as possible.

196. The Committee took note of a proposal by the ILO International Occupational Safety and Health Information Centre to publish a number of data bases, documents and files relating to chemical safety on CD-ROM. Such a CD-ROM would be prepared within the context of the UNCED Agenda 21, Chapter 19 "Information exchange on toxic chemicals and chemical risks", and would include transport of dangerous goods publications such as the Recommendations on the Transport of Dangerous Goods. The Committee, welcoming any effort to promote the dissemination of its Recommendations, did not object to that proposal, provided that the inclusion of the Recommendations is done in cooperation with and under control of the United Nations secretariat.

**CHAIRMANSHIP FOR 1995/1996**

197. The Committee unanimously agreed that Mr. L. Grainger (United Kingdom) and Mr. J. Monteith (Canada) should be re-elected as Chairman and Vice-Chairman respectively of the Committee and its Sub-Committee for the next biennium.

**REPORT TO THE ECONOMIC AND SOCIAL COUNCIL**

198. The secretariat was requested to transmit the draft resolutions reproduced in annex 5 to the Council together with a report on the Committee's activities and recommendations.

199. The Committee, recognizing the heavy burden of work placed on the Secretariat for this and other meeting responsibilities expressed its gratitude for the Secretariat's untiring efforts and attributed a significant portion of the Committee's success in completing its work to the Secretariat.

**ADOPTION OF THE REPORT**

200. The Committee adopted the report on its eighteenth session and the annexes thereto.

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## Annex 1

## Amendments to Chapters 1, 2 and 3 of the Recommendations on the Transport of Dangerous Goods

(See document ST/SG/AC.10/21/Add.1)

## Annex 2

## Amendments to chapter 4 of the Recommendations on the Transport of Dangerous Goods

(see document ST/SG/AC.10/21/Add.2)

## Annex 3

## Amendments to chapters 5 to 17, Appendix A and Index of the Recommendations on the Transport of Dangerous Goods

(See document ST/SG/AC.10/21/Add.3)

## Annex 4

## Report of the Working Group on the Rationalization of the Manual of Tests and Criteria

(See document ST/SG/AC.10/21/Add.4)
(English only)

## Annex 5

## DRAFT RESOLUTIONS OF THE ECONOMIC AND SOCIAL COUNCIL

### 1995/XX Work of the Committee of Experts on the Transport of Dangerous Goods

*The Economic and Social Council*

*Recalling* its resolution 1993/50 of 29 July 1993,

*Noting* the increasing volume of dangerous goods in worldwide commerce and the rapid expansion of technology and innovation,

*Bearing in mind* the continuing need to meet the growing concern for the protection of life, property and the environment through the safe transport of dangerous goods while facilitating trade,

*Aware* that, in order to achieve internationally harmonized laws, the Economic Commission for Europe, the specialized agencies and other international organizations involved in activities related to the transport of dangerous goods and interested member States have responded positively to its various resolutions issued since 15 April 1953 and are committed to taking the recommendations of the Committee of Experts on the Transport of Dangerous Goods as a basis for the formulation of their requirements and regulations, including those concerning labelling and classification, and therefore rely on the work of the Committee,

*Noting* the activities of the Economic Commission for Europe and the Central Office for International Railway Transport, as well as projects of other international organisations for restructuring their regulations applicable to the transport of dangerous goods,

*Noting also* the advice of the Committee of Experts on the Transport of Dangerous Goods that reformatting the provisions applicable to all modes of transport contained in the Recommendations on the Transport of Dangerous Goods into a Model Regulation, annexed to a basic Recommendation, that could be directly integrated into all modal national and international regulations, would enhance harmonization, facilitate regular up-dating of all instruments concerned by the relevant organisations or regulatory authorities, and result in overall considerable resource savings for Governments of the member States, the United Nations, its specialized agencies and other international organizations,

1. *Takes note* of the report of the Secretary-General on the work of the Committee of Experts on the Transport of Dangerous Goods during the biennium 1993-1994 and of the new and amended recommendations approved by the Committee for inclusion in its existing recommendations, including a rationalized Manual of Tests and Criteria;

2. *Commends* the Secretary-General for the timely publication of the eighth revised edition of the Recommendations on the Transport of Dangerous Goods in all official languages of the United Nations;

3. *Requests* the Secretary-General:

(a) To incorporate in the existing Recommendations of the Committee of Experts on the Transport of Dangerous Goods all the new and amended recommendations approved by the Committee at its eighteenth session;

(b) To publish the new and amended Recommendations in all the official languages of the United Nations, in the most cost-effective manner, not later than the end of 1995;

(c) To publish in the most cost-effective manner, the Rationalized Manual of Tests and Criteria in English and French not later than the end of 1995, and in all other official languages of the United Nations as soon as possible;

(d) To circulate the new and amended Recommendations, including the Manual of Tests and Criteria, immediately after their publication to the Governments of member States, the specialized agencies, the International Atomic Energy Agency and other international organizations concerned;

4. *Invites* all Governments, the specialized agencies, the International Atomic Energy Agency and the other international organizations concerned to transmit to the Secretary-General their views on the Committee's work, together with any comments they may wish to make on the amended recommendations;

5. *Invites* all interested Governments, regional commissions, specialized agencies and the international organizations concerned, when developing appropriate codes and regulations, to take full account of the recommendations of the Committee;

6. *Requests* the Secretary General to take all necessary steps for ensuring secretariat representation of the Committee of Experts on the Transport of Dangerous Goods at appropriate meetings of international organizations committed to implementing the recommendations of the Committee or involved in the process of global harmonization of classification and labelling systems for chemicals;

7. *Approves* the programme of work of the Committee and its Sub-Committee for the biennium 1995-1996, as well as the working arrangements, and the priorities of work for that biennium, as follows:

(a) Global harmonization of classification criteria (implementation of Chapter 19 of Agenda 21), in accordance with resolution 1995/XY;

(b) Reformatting the Recommendations on the Transport of Dangerous Goods into a Model Regulation;

(c) Review of the recommendations on the transport of dangerous goods in multimodal portable tanks;

(d) New or revised recommendations on the transport of dangerous goods;

8. *Requests* the Secretary-General to maintain the appropriate staff resources for the service of meetings related to the work of the Committee and its Sub-Committee, in view of the new programme of work which includes as a high priority the global harmonization of classification criteria;

9. *Requests* the Secretary General to submit a report to the Council in 1997 on the implementation of the present resolution.

**1995/XY Role of the Committee of Experts on the Transport of Dangerous Goods in the development of a harmonized system of classification and labelling of chemicals for implementing Chapter 19 of Agenda 21**

*The Economic and Social Council*

*Recalling* its resolution 468 (XV) of 15 April 1953, whereby it established the terms of reference of the future Committee of Experts on the Transport of Dangerous Goods, in particular as regards its role in recommending and defining groupings or classifications of dangerous goods on the basis of the character of risk involved, and recommending marks or labels for each grouping or classification which should identify the risk graphically and without regard to printed text,

*Recalling also* its resolution 645 (XXIII) of 26 April 1957, whereby it invited the Secretary-General to continue his consultations with the Director-General of the International Labour Office on the best means of avoiding any overlapping of the work of the Committee of Experts on the Transport of Dangerous Goods with any work hereby undertaken in this field by the International Labour Office,

*Recalling further* its resolution 1993/50 of 29 July 1993, whereby it invited all Governments and the international organisations concerned with the implementation of Chapter 19 of Agenda 21, and participating in the development of a globally harmonized system of classification and labelling of chemicals, to avoid duplication of work and to ensure that, to the greatest extent possible, the new system draws on, or is compatible with, the internationally well-recognized and implemented system developed by the Committee of Experts on the Transport of Dangerous Goods,

*Bearing in mind* that the Commission on Sustainable Development (CSD) on its second session, when reviewing progress in the implementation of Agenda 21 and in particular, sectoral cluster "toxic chemicals and hazardous wastes", endorsed the Priorities for Action adopted by the International Conference on Chemical Safety for implementation of Chapter 19 of Agenda 21, and welcomed in particular the targets and timetables agreed upon, including the date of 1997 for finalization of the technical work on classification criteria [1/], and that the CSD called upon United Nations bodies and other international organizations to improve international coordination to avoid unnecessary duplication of efforts and to strengthen the International Programme of Chemical Safety,

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1/ E/1994/33, paragraphs 159 and 161 and annexes to section E.

Recalling its decision 1994/300 of 29 July 1994, whereby it endorsed the decisions and recommendations contained in the report of the Commission on sustainable Development [2/] , with the exception of paragraph 24, and it invited inter alia, organs of the United Nations system to implement these decisions and recommendations and to take the necessary action to give them effective and transparent follow-up,

*Noting* that the Committee of Experts on the Transport of Dangerous Goods, to accelerate the work on global harmonization, is already cooperating with the International Labour Organization, the World Health Organisation, the United Nations Environment Programme and the Organization for Economic Cooperation and Development as regards criteria for health hazards and hazards to the environment,

*Noting also* that the Committee of Experts on the Transport of Dangerous Goods, after four years of fruitful work, has just finalized an extensive revision of its "Manual of Tests and Criteria" [3/] related to the classification of flammable, explosive and reactive materials,

*Noting further* that the Director of the International Programme on Chemical Safety and the Director of the Working conditions and Environment Department of the International Labour Office, have requested [4/] the Committee of Experts on the Transport of Dangerous Goods to elaborate proposals for globally harmonized criteria for the classification of explosive, flammable and reactive materials, on the basis of the newly revised Manual of Tests and Criteria, which should take account of aspects not necessarily covered under transport safety regulations, but also other aspects such as the protection of workers, consumers and the general environment, in collaboration with experts in these aspects,

*Confirming* the need for the Committee of Experts on the Transport of Dangerous Goods to participate actively in relevant activities associated with the implementation of Agenda 21, and to cooperate not only with international bodies involved in activities related to the transport of dangerous goods but also with those involved in other aspects of chemical safety,

1. *Notes with satisfaction* that the Committee of Experts on the Transport of Dangerous Goods has taken the necessary steps to collaborate with the international bodies and international organizations concerned with the implementation of Chapter 19 of Agenda 21, in particular for establishing and elaborating a harmonized classification and labelling system for chemicals, and to strengthen its links with the International Programme on Chemical Safety;

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2/ E/1994/33.
3/ ST/SG/AC.10/11/Rev.2.
4/ ST/SG/AC.10/C.3/R.559.

2. *Requests* the Committee of Experts on the Transport of Dangerous Goods, as a high priority in their work programme in accordance with resolution 1995/XX:

(a) to elaborate, by the end of 1996, as requested by IPCS and ILO, proposals for globally harmonized criteria for the classification of explosive, flammable and reactive materials, on the basis of the newly revised Manual of Tests and Criteria [3/], taking account of aspects not necessarily covered under transport regulations, such as protection of workers, consumers and the general environment, in collaboration with experts from ILO and IPCS;

(b) to continue collaboration with the International Programme on Chemical Safety for the implementation of Chapter 19 of Agenda 21;

3. *Requests* the Secretary-General to convene in consultation with the Director-General of the International Labour Office, meetings of experts in the classification of physical hazards during sessions of the Sub-Committee of Experts on the Transport of Dangerous Goods, or in conjunction with those sessions, taking into account, on the one hand, the programme of work of the Committee and its Sub-Committee, and on the other hand, the calendar of conferences and the availability of resources to service meetings.

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3/ ST/SG/AC.10/11/Rev.2.

## Annex 6

### PRINCIPLES FOR THE WORK ON REFORMATTING THE RECOMMENDATIONS ON THE TRANSPORT OF DANGEROUS GOODS INTO A MODEL REGULATION

1. The 9th edition of the Recommendations on the Transport of Dangerous Goods should be revised in the form of a model regulation.

2. The purposes of revising the Recommendations on the Transport of Dangerous Goods into the form of a model regulation are as follows:

(a) to provide a basis for internationally harmonized regulations governing the multimodal transport of dangerous goods, and in doing so, enhance the international harmonization already attained through the current Recommendations;

(b) to "recommend" the Recommendations on the Transport of Dangerous Goods to modal organizations, regional bodies and national governments (in particular those governments considering the development of national regulations affecting the transport of dangerous goods) in a form that can be adopted with little or no modification directly into modal, regional or national regulations.

3. The goals of this effort are to improve the understanding of dangerous goods transport regulations affecting international transport and in doing so, improve compliance and dangerous goods transport safety and facilitate the international transport of dangerous goods.

4. Noting the purpose in 2(b) the model regulation should be in a simplified form that is understood by users of the modal dangerous goods regulations, for example in a form similar to the ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air.

5. Whenever possible, a clear distinction should be made between general requirements (i.e. marking, labelling, documentation and packing requirements) and technical requirements (i.e. specifications and test requirements for packagings, Intermediate Bulk Packagings (IBCs) and tanks). The regulations should also identify responsibilities.

6. In order to provide the greatest international consistency, the model rule should be as comprehensive as possible. For example, the provisions of the current Recommendations should be expanded to include provisions prescribing specific types of packagings and Intermediate Bulk Packagings (IBCs) (defined in Chapter 9 and Chapter 16).

7. If areas or requirements needing substantial changes are identified in the course of the work, they should be brought to the attention of the Sub-Committee (including if appropriate, proposed solutions).

8. Specifications for single mode transport units (i.e. rail tank cars, tank vehicles) and modal specific operational requirements should in general not be provided in the model regulation. However, provision for their insertion by modal, regional or national authorities should be made (i.e. additional columns in the Table of dangerous goods).

9. The model regulation should provide a level of safety equivalent to that provided by the current Recommendations.

10. Representatives from all modes of transport should participate.

11. Existing efforts to restructure regulations such as those of the Working Group on restructuring RID/ADR (see ST/SG/AC.10/R.449), existing documents (INF.40 and Add.1) and existing modal regulations should be taken into account.

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